

# Synergy

**Being more than the sum of our programs**

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This presentation followed a presentation on Partnering by Sue Sillick, Research Programs Manager, MTDOT.

I titled my presentation Synergy because I think that both the UTCs and the state DOTs are trying to make more than the sum of our two programs. I think we are trying to reach into the future of transportation solutions and to build the workforce of tomorrow. While matching opportunities between state DOTs and UTCs is important, it's not just about money. If we limit our thinking to only this issue, it will limit our actions and we will miss a great opportunity.

I'd like to say a couple things about state DOTs. We are all different. We report in different parts and at different levels of the organization. We have different fiscal processes. The scope of interest in our programs vary. What we manage varies (e.g., research, new products, libraries, technology transfer).

The other point I'd like to make is that we are not just a funding source nor are we an anchor. We are evolving organizations with diverse interests. We have many technical experts. They are not rote thinkers but have sound technical knowledge with good insight into practices. We have data and access to equipment and in situ testing opportunities. We can come to your classrooms and discuss the challenges we are facing or how we put the knowledge you are teaching into use in an agency environment. As you develop partnerships with your state DOTs, be aware we have much more to bring to the table than funding.

# Synergy

Function: *noun*

Inflected Form(s): *plural -gies*

Etymology: New Latin *synergia*, from Greek *synergos* working together

1 : **SYNERGISM**; *broadly* : combined action or operation

2 : a mutually advantageous conjunction or compatibility of distinct business participants or elements (as resources or efforts)

Miriam Webster Online

Just verifying that synergy is the word I am looking for. As Sue said in her presentation, in biology we talk about synergistic relationships where two organisms live compatibly and each reach benefits from the relationship that they wouldn't achieve without the other.

# What a DOT Wants

## One State DOT Perspective

- Awareness of our business and research needs
- Particular research interests of your organization
- Information on the technical expertise available in your organization
- Discussion of which needs we might feasibly partner to address
- Critical decision points in your schedule and the timing for those
- Collaborative development of research problem statements/proposals
- Early inclusion on activities for which DOT match is desired
- Inclusion in peer reviews to celebrate successes, provide suggestions for improvement

As we been working on our partnerships with the Region X UTCs, I have been trying to clarify, in my own mind, what I want from a UTC or a relationship with a university. I offer the following points as one DOTs perspective. I the following from universities:

- Awareness of our business and research needs
  - Search agency websites
  - Talk with the Research Director and Staff
- Particular research interests of your organization
  - To help avoid wasted effort
- Information on the technical expertise available in your organization
  - In order to better align our interests or help us understand the our interests diverge
- Discussion of which needs we might feasibly partner to address
  - Do we have enough time for a university project or does the agency need a faster response than the typical student project?
  - Are professional staff available to do on call work?
  - Can your university compete with private consultants for work?
  - Will expensive equip need to be invested and can we do that?
  - Are there concerns related to ownership of data or publication of sensitive material?
- Critical decision points in your schedule and the timing for those
  - Can we align the stars in our universes?
- Collaborative development of research problem statements/proposals
  - Let's not waste each others time
- Early inclusion on activities for which DOT match is desired
  - Please, no surprises. It will provide for a much faster response to match if we have to hunt for money, or understand how match affects our project
- Inclusion in peer reviews to celebrate successes, provide suggestions for improvement
  - We're not just a pocket book. We have knowledge, training, practical experience, insight. We've been a part of the process, let us continue to be so.

# What a DOT Wants

## One State DOT Perspective

- Efficient ways to communicate with a non-hierarchical community representing diverse technical specialties
- Help making connections – within your organization and beyond
- Partnering to obtain funding from other sources
- Information on your results and accomplishment
- Help fostering tomorrow's workforce through developing interest in transportation – from professors and students representing diverse technical areas

•Efficient ways to communicate with a non-hierarchical community representing diverse technical specialties

- Agencies tend to a hierarchical structure. Universities don't. How can I effectively engage in a conversation?

•Help making connections – within your organization and beyond

- Help us play matchmaker between agency technical experts and professors working in that field

•Partnering to obtain funding from other sources

- DOTs share common interests with other agencies and organizations.
- We may not be able to get their attention readily in busy schedules. Help us make connections to leverage research and expedite adoption of outcomes.

•Information on your results and accomplishment

- Easy access to your reports
- Information on accomplishments so we can help our managers and legislators understand the value of the relationship

•Help fostering tomorrow's workforce through developing interest in transportation – from professors and students representing diverse technical areas

- While student information is not required in the SPR (and I hope it doesn't become a measure for us), it is information that we like to know. Work force is a huge issue in DOTs right now. Skills needed in the workplace continue to change and develop and we want your curriculums to help provide training on the new needs as it fits your programs (corridors, environmental, project management...)

## What should a DOT provide One State DOT Perspective

- Opportunities
- Clear information on research needs and future direction
- Clear information on organizational interests
- Information on the research program processes and critical decision points
- Inclusion in research planning discussions
- Information on research results and accomplishments
- Data
- Staff time
- Help making connections
- No surprises

I recognize that what I want from universities is only half of the equation. Here are some things I think I need to bring to our partnerships.

### Opportunities

- Current topics
- Classroom speakers
- Intern opportunities
  - Traffic Management Center
  - Summer jobs

### Clear information on research needs and future direction

- If we want a program directed to meet our needs, we need to present these needs in a clear and cogent way
- Research Context and Needs papers (author versus user)
- Research Roadmaps
- National Agendas
- Research Plans

### Clear information on organizational interests

- Business directions
- Priorities of Government

### Information on the research program processes and critical decision points

- Research Procedures Manual
  - Current processes required of your state DOT
- Talk with the Research Director to see what they can shift if schedules aren't aligned

### Inclusion in research planning discussions

- Let's not waste each others time with activities that don't align well

### Data

- Timely access to data you need for DOT funded and other research activities

### Staff time

- If we're interested in similar things we should make time for participation in classrooms, with projects
- Research typically is a collateral duty for an agency employee – be sensitive to their schedule pressures
  - Construction season during the summers when researchers are more available

### Help making connections

- We should help you make connections with agency technical experts; not just names and contact information but introductions, explanations

### Information on research results and accomplishments

- Easy access to our reports
- Information on accomplishments so you can see what we're doing and interested in.

### No surprises

## Recommendations for PIs

- Review websites of the DOT and the technical specialty you are engaged in
- Call/Meet the Research Director/Technical Specialist to introduce yourself
- Ask for research plans and needs
- Stay in touch – call with project information, ideas or relevant information
- Understand how the organization may use the research results
- Speak up if the DOT is holding you up

I've had conversations with Principal Investigators about ways to strengthen their relationship with the technical programs in our agencies. Like any relationship, communication is the foundation for the partnership.

- Review websites of the DOT and the technical specialty you are engaged in
- Call/Meet the Research Director/Technical Specialist to introduce yourself
- Ask for research plans and needs
- Stay in touch – call with project information, ideas or relevant information
- Understand how the organization may use the research results
  - Tailoring an outcome for rapid use helps us gain support for research
- Speak up if the DOT is holding you up
  - Many of us recognize that we can create delay in a project. Help us help you resolve the delay.

## Role of the Technical Monitors

- Develops problem statements, in collaboration with partners
- Reviews and comments on the scope of work for the research project.
- Identifies and provides Offices and Regions that will be users of or affected by research findings
- Ensure research products achieve the most comprehensive outcome possible for the resources provided.
- Remains in contact with the Principle Investigator and Research Manager throughout the project.
- Reviews and comments on interim, draft final, and final reports and other products of the research.
- Develops an Implementation Plan for the research findings including information on technology transfer and project marketing.
- Reports on progress of the implementation plan at timeframes established in the implementation plan.

Remember that, for a DOT employee, research activities are likely to be collateral duties. And they are typically very busy people. Even so, DOTs have a responsibility to actively participate in projects and to share data, concerns or questions in a timely manner – not just during the review of the draft report. And Technical Monitors are most frequently volunteers because of the interest in research and the intellectual interests these projects provide.

We're trying to improve this by more clearly explaining the role and by monitoring performance. This list is a slightly abbreviated list from the WSDOT Research Procedures Manual describing the functions of a Technical Monitor on a SPR funded project within our agency.

We want to keep improving the process, the partnerships and the relevance of research projects. Toward that end, evaluations of the research project are likely to come – of the overall project and the performance of the Tech Monitor, PI, and Research Manager.

What does collaboration mean  
to you?

I believe, for our partnerships to work most effectively – and for us to be able to leverage our resources most effectively, we need to understand what each partner expects of our collaboration. What are the desired outcomes? What are the expectations for communication and participation along the way?



# Collaborate

Etymology: Late Latin *collaboratus*, past participle of *collaborare* to labor together, from Latin *com-* + *laborare* to labor

**1** : to work jointly with others or together especially in an intellectual endeavor

**2** : to cooperate with or willingly assist an enemy of one's country and especially an occupying force

**3** : to cooperate with an agency or instrumentality with which one is not immediately connected

No one said collaboration is easy, or even always voluntary – note definition two. However, we are working together because we find advantage in the collaboration.

That said, I'm not sure I know exactly what universities want from the collaboration with a state DOT beyond funding. Here's what I think I know. (next slide)

## What I understand I think

- Universities want information on research needs.
  - Not just general topics
  - Not so specific there is no room for intellectual involvement/ownership
- Active and timely involvement throughout the process
- Timely and efficient transfer of funding
- Realistic contract timeframes
- Understanding of the schedule realities of a professor

Universities want information on research needs.

- Not just general topics
- Not so specific there is no room for intellectual involvement/ownership
- Active and timely involvement throughout the process
  - Agencies can hold up projects by not providing data, not providing input on draft reports, not providing important perspective at the right time during the study
- Timely and efficient transfer of funding
  - Students are not available indefinitely and need to be paid for their work
- Realistic contract timeframes
  - Understanding that the rhythms of our organizations are not the same
  - Example of final reports expected to be developed as finals are underway
- Understanding of the schedule realities of a professor
  - Summer time focus, school year realities

I also believe there is a desire for predictable funding. That, despite the fact professors are comfortable competing for funds, they want some assurance that funding will be available if they put forth a legitimate proposal. This can be challenging for a DOT. Our funding for research has been quite level for years but our needs for research are changing. I think in the face of this, communicating changes in research interests in a timely and clear fashion so that our partners don't have the rug pulled out from under their feet is important.

## **The Four Fold Way**

- 1. Show Up**
- 2. Pay Attention**
- 3. Be Honest**
- 4. Don't be attached to outcomes**

I heard this several years ago and often reflect how useful this approach is in meetings of groups with diverse interests. We do represent different interests and priorities. Working together does require participation, listening, being clear about how an action will affect our organization and our willingness to fully participate in a strategy, and compromise. We need to clearly understand what is a need of our organization versus wants – be it in process, subject, or timing.

Say it as if they're listening.

Frank Darmiento

A real discussion may break out.

Steve Anderle

Just a couple quotes that I keep posted in my office. Sometimes you have to repeat yourself until people have the time to hear what you're really saying. But you have to believe that they are receptive too. And, when you do – a real discussion may break out.

## Examples of success

- The Washington State Transportation Center (TRAC)
- Transportation Northwest
- Materials Research
- Transportation Pooled Fund Program

Some examples where I think our partnerships are working and we seeing some benefits from leveraging funding and other resources:

### The Washington State Transportation Center (TRAC)

- Tri-party agreement since 1983
- Has established efficiencies in contracting
- Has name recognition in Department
- Has fostered connections between professors and agency staff
- Continuing to grow its vision

### TransNow

- Traffic Management Center in the Northwest Region
  - Integrating students into a real working situation
  - Provided staffing at a reasonable cost
  - Fostering interest in transportation and traffic management
- Star Lab
  - We've shared equipment
  - Data
  - Fostering interest in transportation and traffic management

### Materials Research

- 110 years of research doesn't hurt
- Nature of work a little more directed than some areas (less external influence for example)
- WSDOT Materials Laboratory has a research plan and supports active involvement of their workforce in research
- Dr. Joe Mahoney, University of Washington, has built a relationship with agency staff, stays aware of their needs, provides status information frequently.

### Transportation Pooled Fund Program

- Has allowed many states to do more with little
- Work has been conducted through universities in many cases
- Can receive funds from non-agency sources
- WSDOT has leveraged, on the average, \$9 for every dollar invested